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**Appendix C
Geology and Soils**

EXHIBIT C-3
Summary of Soil Types in Project Corridor

MUSYM	Soil Name	Counties ^a	Parent Material	Soil Area (acres)
87	Dickinson Sandy Loam	Pe	Sand in dunes	2,608.1
54	Plainfield Loamy Sand	Pe	Sand in dunes	1,642.8
379	Dakota Loam	M, Pu	Sand and gravel	1,499.1
439	Jasper Loam	Pe	Sand and gravel	1,329.3
279	Rozetta Silt Loam	B, Pe, M, Pu	Loess > 60	1,316.0
8304	Landes Fine Sandy Loam	Pu, Pe, M	Alluvium / colluvium	1,311.3
290	Warsaw Silt Loam	Pe, M	Sand and gravel	1,187.6
224	Strawn Silt Loam	M, Pe	Loess < 40 over till / paleosol	1,021.7
37	Worthen Silt Loam	Pu, Pe, M	Alluvium / colluvium	818.6
86	Osclo Silt Loam	Bu, M	Loess > 60	805.6
398	Wea Silt Loam	Pu, M	Sand and gravel	778.1
3480	Moundprairie Silty Clay Loam	B, M, Pu	Alluvium / colluvium	734.8
28	Jules Silt Loam	Pe	Alluvium / colluvium	674.2
171	Catlin Silt Loam	M	Loess 40-60 over till / paleosol	660.0
24	Dodge Silt Loam	M, Pe, B	Loess < 40 over till / paleosol	625.8
25	Hennepin Loam	Pu, M, B	Loess < 40 over till / paleosol	610.3
41	Muscatine Silt Loam	B, M	Loess > 60	571.6
233	Birkbeck Silt Loam	M, B, Pe	Loess 40–60 over till / paleosol	560.7
W	Water	M, Pe, B, Pu	Water	515.1
17	Keomah Silt Loam	Pe, M	Loess > 60	486.7
865	Pits, Gravel	Pe	Orthents / urban	470.8
77	Huntsville Silt Loam	Pe, Pu	Alluvium / colluvium	397.9
7081	Littleton Silt Loam	M, Pu	Alluvium / colluvium	375.0
618	Senachwine Silt Loam	M	Loess < 40 over till / paleosol	360.3
2802	Orthents-Urban Land Complex	Pe	Orthents / urban	360.1
406	Paxico Silt Loam	Pe	Alluvium / colluvium	346.1
107	Sawmill Silty Clay Loam	Pe, M, Pu	Alluvium / colluvium	292.2
549	Marseilles Silt Loam	Pe, M	Loess over shale	286.2
145	Saybrook Silt Loam	Pe, M	Loess < 40 over till / paleosol	270.9
68	Sable Silty Clay Loam	Pe, M	Loess > 60	264.8
19	Sylvan Silt Loam	B, M, Pe	Loess > 60	260.1
74	Radford Silt Loam	Pe, M, Bu	Alluvium / colluvium	257.0

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Summary of Soil Types in Project Corridor

MUSYM	Soil Name	Counties ^a	Parent Material	Soil Area (acres)
567	Elkhart Silt Loam	M	Loess > 60	214.1
43	Ipava Silt Loam	M	Loess > 60	213.8
3360	Slacwater Silty Clay Loam	M	Alluvium / colluvium	207.5
8368	Raveenwash Silt Loam	M	Alluvium / colluvium	170.5
154	Flanagan Silt Loam	M	Loess 40–60 over till / paleosol	166.7
802	Orthents, Loamy	M, Bu, Pu	Orthents / urban	166.0
570	Martinsville Fine Sandy Loam	M	Loess < 40 over outwash	161.3
88	Sparta Loamy Sand	M	Sand in dunes	123.7
150	Onarga Sandy Loam	M	Sand and gravel	108.9
280	Fayette Silt Loam	M, Pe, B, Pu	Loess > 60	105.4
104	Virgil Silt Loam	Pe, B	Loess 40–60 over outwash	98.7
3070	Beaucoup Silty Clay Loam	Pe	Alluvium / colluvium	95.3
257	Clarksdale Silt Loam	Pe, M	Loess > 60	94.9
199	Plano Silt Loam	M, Pe	Loess 40–60 over outwash	91.6
16	Rushville Silt Loam	Pe	Loess > 60	77.8
27	Miami Loam	Pu	Loess < 40 over till / paleosol	76.9
533	Urban Land	Pe	Orthents / urban	72.0
239	Dorchester Silt Loam	Pe	Alluvium / colluvium	68.0
93	Rodman Gravelly Loam	Pu, B	Sand and gravel	59.5
8179	Minneiska Loam	B	Alluvium / colluvium	56.9
134	Camden Silt Loam	B, P	Loess < 40 over outwash	55.1
344	Harvard Silt Loam	Pe	Loess < 40 over outwash	37.8
282	Chute Loamy Fine Sand	Pe	Sand in dunes	34.9
132	Starks Silt Loam	Pe	Loess < 40 over outwash	32.5
383	Newvienna Silt Loam	M	Loess > 60	27.6
98	Ade Loamy Fine Sand	Pu	Sand in dunes	26.6
278	Stronghurst Silt Loam	B	Loess > 60	24.9
194	Morley Silt Loam	B	Loess < 40 over till / paleosol	23.8
198	Elburn Silt Loam	Pe	Loess 40–60 over outwash	21.6
102	La Hogue Loam	Bu	Sand and gravel	20.2
61	Atterberry Silt Loam	B	Loess > 60	18.5
587	Terril Loam	Pu	Alluvium / colluvium	15.8

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Summary of Soil Types in Project Corridor

MUSYM	Soil Name	Counties ^a	Parent Material	Soil Area (acres)
152	Drummer Silty Clay Loam	B, M	Loess 40–60 over outwash	15.4
149	Brenton Silt Loam	Pe	Loess < 40 over outwash	15.4
820	Hennepin-Casco Complex	B, Pe	Loess < 40 over till / paleosol	12.7
383	Downs Silt Loam	B	Loess > 60	12.1
451	Lawson Silt Loam	Pe, B	Alluvium / colluvium	11.0
148	Proctor Silt Loam	Pe	Loess < 40 over outwash	8.6
647	Lawler Loam	B	Loess < 40 over outwash	8.4
3210	Lena Muck	B	Peat	7.6
236	Sabina Silt Loam	M	Loess 40–60 over till / paleosol	4.5
8378	Lanier Gravelly Sandy Loam	Pu	Sand and gravel	3.8
536	Dumps	M	Orthents / urban	3.3
60	La Rose Silty Clay Loam	M	Loess < 40 over till / paleosol	2.8
131	Alvin Fine Sandy Loam	Pe	Sand and gravel	1.5
Total				26,574.8

^aB Bureau County
 M Marshall County
 Pe Peoria County
 Pu Putnam County

EXHIBIT C-4

Ten Most Prevalent Soil Types in Project Area

Dickinson Sandy Loam (2,608 acres) is a gently sloping (1 to 4 percent) well-drained soil developed on stream terraces and in outwash plains. Dickinson Sandy Loam soils, as they pertain to the project study area, are found in the floodplain terraces in Peoria County, such as near Chillicothe.

Plainfield Loamy Sand (1,642 acres) is a moderately to highly sloping (3 to 18 percent) well-drained soil developed on hummocky dunes on high stream terraces. Plainfield Loamy Sand soils, as they pertain to the project study area, are found in hummocky dunes in terraces in Peoria County, such as near Chillicothe.

Dakota Loam (1,499 acres) is a gently sloping (0 to 5 percent) well-drained soil developed on glacial outwash on high terrace areas. Dakota Loam soils, as they pertain to the project study area, are found in the terraces in Putnam and Marshall counties, such as near Henry.

Jasper Loam (1,329 acres) is a gently sloping (1 to 4 percent) well-drained soil developed on ridge tops and side slopes on outwash plains and stream terraces. Jasper loam soils, as they pertain to the project study area, are found on ridges and edges of outwash and stream terrace areas in Putnam County, such as south and west of Chillicothe.

Rozetta Silt Loam (1,316 acres) is a gently to moderately sloping (0 to 10 percent) moderately well-drained soil developed on loess deposits on broad ridgetops and sideslopes in the upland areas. In a few areas, it has been formed on stream terraces. Rozetta Silt Loam soils, as they pertain to the project study area, are found generally in Peoria and Marshall counties on the margins of drainageways in the upland areas, west of the Illinois River valley wall. Minor areas are also found in Bureau and Putnam counties.

Landes Loam (1,284 acres) is a gently sloping (0 to 5 percent) well-drained soil developed on fine to sandy alluvium of low stream terraces and high floodplain areas. It is subject to rare flooding. Landes Loam soils, as they pertain to the project study area, are found in Peoria County west of Chillicothe in upper floodplain areas of tributary streams near the Illinois River valley wall.

Warsaw Silt Loam (1,188 acres) is a nearly level (0 to 3 percent slopes) well-drained soil developed on sand and gravel of stream terrace flats. Warsaw Silt Loam soils, as they pertain to the project study area, are found in Peoria County south and west of Chillicothe in flat terrace areas.

Strawn Silt Loam (1,022 acres) is a strongly sloping to steep (8 to 30 percent) well-drained soil developed on side slopes of dissected till plains in the uplands. Subsoils typically consist of thin loess deposits over till. Strawn Silt Loam soils, as they pertain to the project study area, are found primarily in Peoria County on the sideslopes of drainageways in the upland areas, west of the Illinois River valley wall.

Worthen Silt Loam (819 acres) is a gently sloping (1 to 5 percent) well-drained soil developed on fine grained alluvial fans. Worthen Silt Loam soils, as they pertain to the project study area, are found in stream discharge areas near the base of the Illinois River valley wall, primarily in Putnam and Peoria counties.

Oscos Silt Loam (806 acres) is a slightly to strongly sloping (0 to 10 percent) moderately well-drained soil developed on loess deposits of upland till plain side slopes. Osco Silt Loam soils, as they pertain to the project study area, are found primarily in Marshall County near the sideslopes of drainageways in the upland areas, west of the Illinois River valley wall.

EXHIBIT C-5
Highly Erodable Soils Affected by the Proposed Project

Soil Name	Acres
Hennepin Loam	31
Sparta Loamy Sand	15
Birbeck Silt Loam	13
Martinsville Fine Sandy Loam	13
Strawn Silt Loam	12
Plainfield Loamy Sand	8
Chute Loamy Fine Sand	7
Dodge Silt Loam	4
Onarga Sandy Loam	4
Strawn-Hennepin Loam	3
Senachwine-Hennepin Complex	2
Marseilles Silt Loam	1
Rodman Gravelly Loam	1
Senachwine Silt Loam	1

EXHIBIT C-6
Hydric Soils Affected by the Proposed Project

Soil Name	Acres
Drummer Silty Clay Loam	9
Slacwater Silty Clay Loam	18
Moundprairie Silty Clay Loam	273
Beaucoup Silty Clay Loam	13
Sawmill Silty Clay Loam	35

EXHIBIT C-7
Coal Mine Information

ISGS Index	Company Name	Mine Name	Mine Type	Mine No.	Method	Year Operated	Seam Mined	Location TWP	RGE	Approximate Location (OLD Stationing)	Distance from Alignment C-3A	Station	Notes
361	Colwel, E. L.	Colwell	Drift	NA	NA	1923–29	Danville	13N	9E	35	0.75 mile W	214	
6081	NA	NA	Slope	NA	NA	NA	Danville	13N	9E	36	0.5 mile W	222	
6080	Calwell, Frank (before 1931)	Calwell	Slope	NA	NA	NA	Danville	13N	9E	35	0.5 mile W	223	
6080	Pierson (before 1931)	Pierson	Slope	NA	NA	NA	Danville	13N	9E	35	0.5 mile W	223	
2863	Lopeman, Elmer	Lopeman	Slope	NA	RPB	1929–39	Danville	13N	9E	36	< 0.25 mile E	257	
2863	Pearson, J. H.	Pearson	Slope	NA	RPB	1939–45	Danville	13N	9E	36	< 0.25 mile E	257	
6464	Babington & Kaer	Babington & Kaer	NA	NA	NA	NA	NA	NA	NA	NA	0.5 mile W	275	a
6066	NA	NA	Shaft	NA	NA	NA	Danville	12N	9E	2	0	292	
6053	Eagle CC—Panlucci, Pete	Eagle	Drift	NA	MRP	1929–42	Danville	12N	9E	2	600 ft W	296	
6068	Before 1930	NA	NA	NA	NA	NA	Danville	12N	9E	2	< 0.25 mile W	297	
6067	NA	NA	Shaft	NA	NA	NA	Danville	12N	9E	2	0	297	
2850	Nyswonger Bros	Nyswonger	Slope	NA	NA	1934–36	Danville	12N	9E	2	0.5 mile W	311	b
2850	Nyswonger, Clarence	Nyswonger	Slope	NA	NA	1936–37	Danville	12N	9E	2	0.5 mile W	311	
2850	Nyswonger, Wilbur	Nyswonger	Slope	NA	NA	1937–38	Danville	12N	9E	2	0.5 mile W	311	
2850	Nyswonger, Wilbur-Hunt CC	Hunt	Slope	NA	NA	1938–39	Danville	12N	9E	2	0.5 mile W	311	
6061	Keiris, McKinley	Keiris	NA	NA	NA	NA	Danville	12N	9E	11	0.5 mile W	311	b
6079	Pierson, John Before 1930	Pierson	Shaft	NA	RPB	NA	Danville	13N	9E	35	0.5 mile W	312	b
363	Turk, Tony	Turk	Drift	NA	NA	1923–29	Danville	12N	9E	2	<0.25 mile W	314	
363	Turk, Tony B4 or B5	Turk	Drift	NA	NA	1923–29	Danville	12N	9E	2	<0.25 mile W	314	
2853	Davis, Arthur	Davis	Drift	1	NA	1935–51	Danville	12N	9E	11	0.5 mile W	331	
2853	Davis CC	Davis	Drift	NA	NA	1951–52	Danville	12N	9E	11	0.5 mile W	331	
6059	Fogarty	Forgarty	UG	NA	RPB	NA	Danville	12N	9E	11	2000 ft W	334	

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ISGS Index	Company Name	Mine Name	Mine Type	Mine No.	Method	Year Operated	Seam Mined	Location TWP	RGE	Approximate Location (OLD Stationing)	Distance from Alignment C-3A	Station	Notes
2852	Illinois Valley CC	ILL Valley	Drift	1	NA	1912–14	Danville	12N	9E	11	0	334	d
6070	Ross, Fred	Ross	NA	NA	NA	NA	Danville	12N	9E	11	0	339	d
286	Sparland C C	Sparland	Shaft	NA	LW	1889–15	Danville	12N	9E	34	0	343	
286	Cumming & Co	Cumming	Shaft	NA	LW	1889–15	Danville	12N	9E	34	0	343	
286	Fulton County CC	Fulton CTY	Shaft	2	LW	1889–15	Danville	12N	9E	34	0	343	
6060	Crew, WM	Crew	NA	NA	NA	NA	Danville	12N	9E	11	2500 ft W	351	
2851	Kaer C C	Kaer	Drift	1	NA	1936–42	Danville	12N	9E	11	1500 ft W	353	
6071	NA	NA	Drift	NA	NA	NA	Danville	12N	9E	14	<0.5 mi W	365	d
6072	NA	NA	Drift	NA	NA	NA	Danville	12N	9E	14	<0.5 mi W	374	d
6073	NA	NA	Drift	NA	NA	NA	Danville	12N	9E	14	<0.5 mi W	374	d
2856	Simpson, W. H.	Simpson	Drift	NA	NA	1935–39	Danville	12N	9E	15	0.5 mile W	384	d
2856	Babington Brothers	Babington Bros	Drift	NA	NA	1939–41	Danville	12N	9E	15	0.5 mile W	384	d
6065	Davis Drift	Davis	Drift	NA	NA	NA	Danville	12N	9E	11	<0.5 mile W	1161	
6064	Crew, Robert	Crew	UG	NA	RPB	NA	Danville	12N	9E	23	0	1197	d
6075	Corell	Corell	Drift	NA	NA	NA	Danville	12N	9E	15		1198	
6054	Simpson, W H	Simpson	Drift	NA		1935–42	Danville	12N	9E	14	<0.25 mile W	1200	
2857	Reed, Art & Bros	Reed	Drift	1	NA	1934–38	Danville	12 N	9E	23	0	1216	
2857	Krantz & Bevar	Krantz & Bevar	Drift	NA	NA	1938–39	Danville	12 N	9E	23	0	1216	
2857	Liberty CC	Liberty	Drift	NA	NA	1939–41	Danville	12 N	9E	23	0	1216	
2857	Wolgmuth, Frank	NA	Drift	NA	NA	1941–43	Danville	12 N	9E	23	0	1216	
6062	Crew, Robert	Crew	Slope	3	NA	NA	Danville	12N	9E	23	0	1222	

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Coal Mine Information

ISGS Index	Company Name	Mine Name	Mine Type	Mine No.	Method	Year Operated	Seam Mined	Location TWP	RGE	Approximate Location (OLD Stationing)	Distance from Alignment C-3A	Station	Notes
2859	Illinois Valley CC	ILL Valley	Drift	3	RPB	1913–15	Danville	12N	9E	23	0	1236	
2861	Illinois Valley CC	ILL Valley	Drift	2	RPB	1912–14	Danville	12N	9E	26	<0.25 mile W	1264	
6063	NA	NA	NA	NA	NA	NA	Danville	12N	9E	27	0	1311	c
365	Picher, R (Collear & Picher)	Sparland	Drift	NA	NA	1928–29	Danville	12N	9E	34	0.5 mile W	1315	c
6055	Owl CC—Piersons, Roy	Owl	Drift	NA	NA	1937–42	Danville	12N	9E	34	0.5 mile W	1315	c
3883	Hydraulic Press Brick	Hydraulic Press Brick	Shaft	1	NA	1934–34	Danville	12N	9E	27	<0.25 mile W	1338	c
6076	Hunt, G.E., & Son Before 1931	Hunt	Slope	NA	NA	NA	Danville	12N	9E	27	0.5 mile W	1351	c
2862	Dobrich, Vincent	Dobrich	Drift	NA	NA	1924–36	Danville	12N	9E	34	<0.25 mile W	1355	c
2862	Johnson, Ray	Johnson	Drift	NA	NA	1936–37	Danville	12N	9E	34	<0.25 mile W	1355	c
2862	Dobrich, Vincent	Dobrich	Drift	NA	NA	1937–42	Danville	12N	9E	34	<0.25 mile W	1355	c
6051	Crew, W. E.	Crew	Drift	NA	NA	1936–40	Danville	12N	9E	34	<0.25 mile E	1355	c

Note:

All coal mine information in this table is identified from the *Directory of Coal Mines in Illinois—Marshall County* by ISGS (May 2000). Approximate location of the mine (stationing along existing IL 29) is scaled from the coal mine GIS database downloaded from the IDNR Data Clearinghouse, except where otherwise noted.

^aThis mine is not on in the ISGS 2002 map directory for Marshall County, but is located in the GIS database. Additional mine information is not available.

^bThis mine is not located in the GIS database, though a label is present. Location estimated based on both the GIS map and the ISGS 2000 map for Marshall County.

^cThere is not a specific location on the GIS Map, though a label is present in the general location indicated on the ISGS 2000 map for Marshall County. Location estimated by the GIS map.

^dThe mine is not included in the GIS database. Therefore, the approximate location was estimated by using the ISGS 2000 map for Marshall County.